Finding Missing Person Using AI

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Keyword:	ABSTRACT
Rapid,Potential, Learning,AI Integration.	The rapid advancements in artificial intelligence (AI) have revolutionized various domains, including the field of missing person investigations. This project aims to develop an innovative approach to locating missing individuals by harnessing the power of AI techniques. The proposed system utilizes machine learning algorithms, computer vision, and natural language processing to analyze diverse data sources, such as surveillance footage, social media posts, and public databases. By training the AI model on a diverse dataset of missing person cases, it can learn to recognize patterns, anomalies, and correlations that might assist in identifying potential leads. The system employs facial recognition algorithms to match individuals' images with existing databases and employs sentiment analysis on textual data to gauge potential emotional distress. Furthermore, a geographical analysis of clues and sightings is conducted to narrow down search areas. The integration of AI technology into missing person investigations holds the potential to significantly enhance the efficiency and accuracy of locating missing individuals, offering a renewed sense of hope for families and law enforcement agencies .The emergence of artificial intelligence (AI) has introduced novel methodologies for addressing complex societal challenges, including the urgent matter of locating missing persons. This project presents a comprehensive AI-based framework designed to improve the efficacy of missing person searches. By harnessing advanced machine learning algorithms, computer vision techniques, and natural language processing capabilities, the system can analyze a wide array of data sources. These sources encompass surveillance videos, social media posts, and public records. Through the utilization of diverse data, the AI model learns to identify intricate patterns, anomalies, and potential connections that might contribute to generating valuable leads. The system capitalizes on facial recognition algorithms to match images with existing databases, while employing sentiment analysis to gauge the emotional state from textual information. Additionally, a geographic analysis is performed to pinpoint search areas based on available clues and sightings. By amalgamating AI technologies into missing person investigations, this project has the potential to significantly elevate the efficiency and precision of locating individuals, offering renewed optimism to both families and law enforcement agencies involved in these cases.

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INTRODUCTION

In layman terms, the purpose of this project is to help in solving the cases and to find the victims as swiftly as possible. Hence, time is of essence here. We will be using the KNN classifier algorithm here in this regard. We have assessed our options and chosen this algorithm due to its analytical capability. Hence, the task at hand gets easier due to the reductions in cost, capital, labour and time consumed.

The reasons which are noteworthy for the reduction are given below,

 The time to locate the mission person's decreases drastically. Reduction in direct costs. Reduction in indirect costs. Through this procedure we try to understand pattern of each information given independently and then try to overcome irregularity if any .The result are also very good when the data is limited.

Literature Survey

This paper the main goal is based on the location af the faces according to the video we also try to find face motion which further helps in face recognition system. Robert edge detector is used to detect the edge of the faces later some arithmetic operations are performed between the nearest frame and initial frame. After that Gaussian filtering technique is used to remove undesired edges and noises. Then first two output frames are taken and logical operation is performed between errorless face outline frame to detect the edges which are similar to the face video. After that we try to draw a rectangle around the face using the four corner points. Which also helps to discover face and make an outline of the face along with each frame. To know whether the position and location of face is changing movement of each point is taken after some time.

III. Objectives

AI Model Development: Develop robust machine learning models incorporating computer vision and natural language processing techniques to analyze diverse data sources, such as surveillance footage, social media content, and public databases.

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Pattern Recognition: Train the AI models to recognize patterns, anomalies, and potential correlations within the collected data, enabling the identification of leads related to missing individuals.

Facial Recognition: Implement facial recognition algorithms to match images of missing persons with existing databases, enhancing the accuracy of identification and reducing false positives.

Sentiment Analysis: Employ sentiment analysis techniques on textual data to assess emotional states and potential distress levels, aiding in prioritizing cases requiring immediate attention.

Geographical Analysis: Develop a geographic analysis component that utilizes available clues and sightings to narrow down search areas and enhance the efficiency of search efforts.

Ethical and Privacy Considerations: Ensure that the AI system adheres to ethical guidelines and privacy regulations when processing personal data, safeguarding the rights and privacy of individuals involved.

Proposed System

Data collection: Gather relevant data such as images, videos, social media posts, and any available information about missing individuals.AI algorithms: Develop or utilize existing AI algorithms for facial recognition, pattern analysis, and data mining. These algorithms will help in identifying and matching potential leads. Facial recognition: Implement a facial recognition system that can analyze images or videos to identify potential matches with missing persons from a database. Data analysis: Utilize AI techniques to analyze various data sources, including social media, to extract relevant information and identify patterns that could aid in locating missing individuals. User-friendly interface: Create an intuitive interface for law enforcement agencies and search teams to input and access data easily. This interface should allow for efficient data entry, search, and collaboration. Testing and validation: Conduct rigorous testing to evaluate the effectiveness and accuracy of the AI system in identifying missing persons. Validate the results against known cases to ensure reliability. Future scope: Consider expanding the system to incorporate real-time data streams like CCTV footage and geolocation data to enhance search and recovery efforts.

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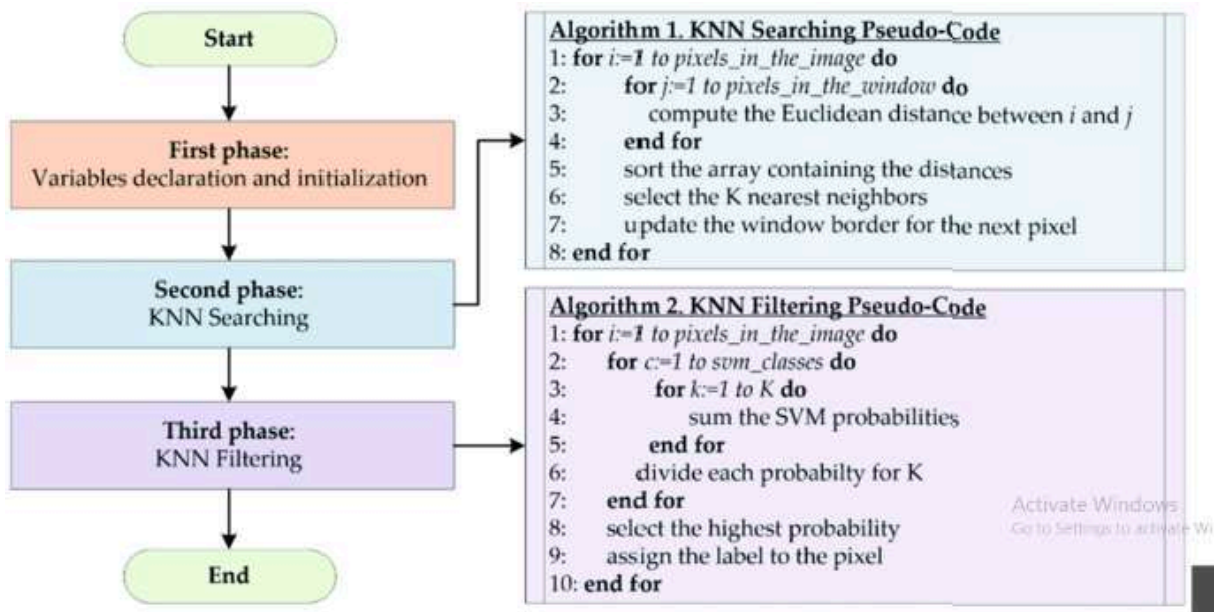
Methodology

Figure No 1.Work Flow

Assessment of an algorithm's predictive capability is most efficiently implemented by testing on the data at hand and not by the rules derived. Cross-validation is a characteristic technique for finding an error rate of the learning scheme on the acquired data.

Whenever a person goes missing, a case is registered with some pictures and some details like name, age, complexion etc. Then the KNN Classifier will be used for cases that have been registered and will be used to train the classifier.

All the photos that have been accumulated will be used to run a prediction method on each photo. If any match is found then it will be displayed. All the cases that have been confirmed will be displayed. Each instance in the data is used only once in the form of a test case and the error rate obtained from all the tested cases is projected as the ratio of the total number of errors to the total number of cases.

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